Response to Comments Document

Bacteria Total Maximum Daily Load (TMDL) for Cub Run in Rockingham County, Virginia

Introduction

A public meeting was held for the Cub Run bacteria TMDL on February 12, 2004. The draft TMDL report (Bacteria Total Maximum Daily Load (TMDL) for Cub Run in Rockingham County, Virginia) was presented at the meeting and made available on the DEQ website. A public comment period on the draft report was held from February 12, 2004 until March 15, 2004. During the public comment period, one set of comments was submitted. Each comment is presented below, followed by DEQ's response to each comment.

Comments Submitted by David Strickler

Comment 1

First, while I am quite confident that the limited data along the Cub Run watershed collected by DEQ is accurate in itself, I am concerned as to how few in numbers the sample base is over time, and also how few data collection locations are being used. My confidence in your analysis would be much greater if as part of this study, DEQ had a parallel data set showing the actual wildlife contribution to the baseline Fecal Coliform (FC) loading, taken somewhere upstream, presumably north of Keezletown, in an area with known minimal possible confounding non-wildlife contributions.

Response

A total of 67 fecal coliform samples were collected from Cub Run at 3 different locations, from the mouth of Cub Run to 7.42 miles upstream. A total of 20 E. coli samples were collected from Cub Run from 2 different stations. In addition, 13 bacterial source tracking samples were collected from the mouth of Cub Run. While additional sampling would always further strengthen the conclusions, DEQ believes that the data collected is adequate to establish the impairment and develop the TMDL. As the commenter mentions, bacterial source information collected above Keezletown may provide useful information on the background wildlife contribution, but this information is not critical at this stage in continuing the TMDL process that attempts to reduce those controllable bacterial sources. During the implementation planning process, which is the next phase of the TMDL, there will be another opportunity to reevaluate and develop a monitoring strategy that will track the progress of implementation success. The implementation plan, which must include a monitoring strategy, will be developed at the local level by local stakeholders. If there is a monitoring need, such as the one identified above, that stakeholders feel will improve implementation success, those needs can be worked into the implementation monitoring strategy.

It should also be noted that regardless of the contribution from wildlife sources in the watershed, Virginia's Water Quality Standards expect that all reasonable best management practices to control bacteria from human activities (including animal waste from pets and agriculture) be implemented to protect the designated use of the waterbody. If all reasonable best management practices are implemented and water quality standards are still not achieved due to wildlife contributions, then a Use Attainability Analysis could be conducted

and the designated use of the waterbody modified. This step cannot be taken, however, until all controllable sources of bacteria are controlled.

Comment 2

Second, as I indicated in both the public meeting at Montevideo on February 12th and at our meeting Friday, I have difficulty believing that the estimated 3600 cats & dogs are having an FC loading impact that is essentially the same order of magnitude as the estimated livestock contribution in the watershed (of which AD-1 Farm is clearly part of). When the Phase I TMDL implementation takes place, and if the net measured pet contribution does not fall relative to the estimated contribution, then I suspect that DEQ will be coming back to the livestock farmers, and asking us for further sacrifices in order to attempt to meet the Plan objectives. This future second set of sacrifices from the farmers will be that much greater if in fact the pet contribution has been overestimated from the beginning.

Response

The bacterial source tracking results ranged from 0% to 50% pet contribution, and averaged 21%. The contribution from livestock ranged from 0% to 92%, and averaged 38%. These average contributions measured in bacterial source tracking samples were used to allocate the TMDL load among sources. DEQ agrees with the commenter that the average measured contributions from pets and livestock are surprising considering the estimated livestock and pet numbers in the watershed and fecal production rates from those animals. As mentioned in the public meeting, it is possible that measured pet contributions at the sampling site are influenced by a dog pen located along the stream bank a short distance upstream from the sampling site. As mentioned above in the response to comment #1, when a monitoring strategy is developed for the implementation plan, additional monitoring sites may be considered.

The commenter expresses concern that any potential overestimation of pet contributions resulting from the bacterial source tracking data may result in greater sacrifices by the agricultural community. This should not be the case, because equal reduction percentages are specified in the allocation scenarios for both pets and livestock. For instance, in the phase I management scenario presented in the draft report, 70% reductions in the bacterial load from both pets and livestock are called for. Regardless of the actual contributed load from each of the two sources, a 70% reduction in each of the respective loads will result in an overall 70% reduction from the two loads combined. In addition, tracking progress during implementation will not be based on measured reductions in loads from each source, but rather on the improving trends in in-stream measured concentrations.

Comment 3

Third, while my very limited understanding is that some State or Federal funds may be made available to aid in the capital cost of Phase I implementation, those funds probably will not do anything to replace the permanently lost income from actually setting the fences back. For example, the AD-1 farm currently has roughly 20% of its taxable land fenced off, mostly in forest (contributing to the wildlife FC component). The forest component generates virtually no income for us. Given the topography & nature of our location (it is a Karst rockpile where it is not almost a wetland), I can see where we might fence out another 5% of the farm in getting to an adequate setback from the spring and creek areas. At current cash land rental rates, AD-1 Farm is looking at a $400 per year, reduction in income, forever, beyond what ever capital cost is involved in moving the fences, digging the retention ponds, planting the trees, rethinking weed control, etc. Many of our neighboring farms will have even greater income losses in protecting the streams and springs internal to them. While I hope that our

fellow taxpayers will be willing make up this difference, I fear that it will be another cost that we farmers will end up bearing alone, unless we find a way to pass them on to the food consumers.

Response

At the present time, implementation of TMDLs to address non-point source pollution relies on the voluntary efforts of individuals. There are federal and state cost share, loan, and incentive programs to encourage best management practices (BMPs), but each individual must evaluate the costs and benefits of those programs to their specific operation. Aside from the monetary benefits of these programs that will cover a percentage of the BMP cost, evidence suggests that some of these BMPs themselves provide economic benefits. For instance, cattle that have alternative watering sources (instead of a bacterially contaminated water source) experience greater weight gains. Certain rotational grazing practices can increase the number of cattle fed per acre. DEQ encourages the commenter to contact the Shenandoah Valley Soil and Water Conservation District for more information on these and other BMPs that could result in economic benefits to the landowner.

Comment 4

Mr. Brent, while I agree that there is a problem in Cub Run, and DEQ unequivocally has a laudable goal in front of it, and that you appear to "*…be doing things right…*"; I am concerned that you are not "*…doing the right things…*". Again, I would encourage you to gather hard data relative to the actual wildlife contribution to the beginning of Cub Run rather than rely on estimated model data from some other location. I also suggest that you re-visit the pet contribution question, as well as your ability to influence the behavior of the pet owners.

Thanks again for taking the time to educate me a bit about the process. Perhaps I will see you at the Smith Creek TMDL program.

Response

As mentioned in the response to previous comments, the implementation planning phase for the TMDL is upcoming. During this planning process, there will be a monitoring strategy developed that can potentially address identified concerns over sampling locations. DEQ encourages the commenter to continue to play an active role in the process and participate on the stakeholder committee during the TMDL implementation planning phase, so that he can influence the process and feel confident that the "right things are being done" as well as continuing to "do things right".